

Dear Editor,

Hereby, we would like to submit a revised version of our manuscript and a response to all three referee letters. We greatly appreciate your help in revising this manuscript. The comments of all referees have been comprehensive, practical, and instructive. They have helped us improving the paper.

Regarding your specific comments, we would like to respond as follows:

*Dear Authors,*

*First of all, please accept my apologies for the relative length of the procedure for this manuscript. As you know (and as I acted previously) the two initial reviewers agreed on "great data set, poor discussion and interpretation". One of the reviewer suggested to request the opinion of a third reviewer with a specific expertise in Antarctic atmospheric processes. This is what I did, and you have seen the comments of this third reviewer recently posted.*

*Interactive comment Printer-friendly version Discussion paper As an editor, I was now left with three options: a) request a fourth reviewer's opinion, b) close the discussion and ask for authors final comments and c) reject the paper. Because of the general opinion that you are providing a unique data set, I have decided for option 2.*

*I believe all reviewers have gone to very detailed and sound comments that would greatly improve the interpretation of the data, and should be fully taken into account in your final response.*

*Of course, you still have the option to withdraw your manuscript and submit it to another Journal.*

We thank you for the opportunity to submit a revised manuscript and continue to believe that The Cryosphere is the appropriate journal for our study. We see the uniqueness of this study in the initial presentation of this new Antarctic water vapour isotope data set. However, we agree that some of our discussions and interpretations have been rather basic, and that additional work could be done for further exploiting the data. Based on the specific comments of the three referees, we think that we have substantially improved the manuscript. We hope that we have dealt with all comments in an adequate manner and that the revised manuscript now qualifies for publication in The Cryosphere.

*If you decide that you have enough arguments to answer all reviewers comments, I will ask you to provide us with:*

*a) A "one to one" reply to all comments of the 3 reviewers, stating your response and how (and where in the manuscript) you have taken this into account in the new version of the manuscript...(citing the initial version of the paragraph and how you have changed it is of real help for the second round of reviews and the editor for his final assessment)*

All responses are provided as requested.

*b) A pristine version of the new version of the manuscript*

As requested, a pristine version of the revised manuscript is available and will be sent to you by email.

*c) A new version of the manuscript with changes highlighted*

As requested, a version of the manuscript with changes highlighted is also available and will be sent to you by email.

*On the basis of these documents, and most probably a second round of review(s), I will take my final decision.*

We very much hope that the revised manuscript now meets your expectations and qualifies for publication in The Cryosphere.