Review: A dedicated robust instrument for water vapor generation at low humidity for use with a laser water isotope analyzer in cold and dry polar regions." by Christophe Leroy-Dos Santos et al. - Revised version

Very satisfactory revision and a few remarks for further improvement

This is the first iteration of the manuscript by Santos et al. The authors have indeed provided very satisfactory answers to all the questions/remarks raised and the modifications they have performed have improved the manuscript considerably. Thereby I would recommend the manuscript for publication in AMT after the following four points are addressed. I would also recommend a final "scanning" of the manuscript for possible language use glitches.

1 Allan variance tests

The authors have performed a very useful Allan variance test. The results of the test however are not discussed thoroughly and the test could be described/introduced a litte bit better in the opening of section 3.2.

Some readers may not be familiar with the term Allan variance and how such a test is performed and data-processed. Please provide some information on

the aspects of your test that would help the reader learn more about your methods and not only your results.

From the plots of the results there emerge some interesting findings. Firstly the stability of your water concentation signal seems to be much worse when compared to the δ^{18}O signal. However this does not seem to affect your ability to improve your signal-to-noise in the δ^{18}O signal by further averaging your measurements. In other words to say that your isotope signal depends strongly on the humidity level is not exactly right. Another important finding is that for averaging times around 500 s the signal-to-noise seems to be very comparable between all humidity levels. This is also important to note.

I would encourage the authors to look closely at the results of the Allan variance test and commend carefully on them. Suggestions for optimal averaging times can be drawn. Interestingly enough the δ^{18}O and δDsignal at the level of 320 ppm seem to show the best performance with respect to stability and potential for improving the signal-to-noise through averaging. It could also be a random result. Whatever the case I would recommend utilising this test even more for the further development of the system and dare to go even lower in concentration (100, 200 ppm) to see if this stability is observed there. These further tests would be extremely welcome as an addition to the current revised version but I would not require them for publication.

2 Effect of air flow and Table S2

A description of how this test is performed and the results of the test itself belong in the main part of the manuscript. Please provide more text introducing the experiment and the methodology used.

3 Humidity correction equation

The equation the authors provide is a high order polynomial, which from my experience is prone to overfitting and erroneous behavior at the edges of the fitted interval. I would appreciate a Figure 5 that is big in size with the correction curve included in the plot. Discuss edge effects using the polynomial correction (if any) and define limits if such effects are apparent.

4 VSMOW-SLAP

Section 3.5 is too short and in my view should have a title that refer to the term SMOW-SLAP calibration. I would also like to see a calibration curve where the two extreme points (EPB, FP5) are used to define the line of calibration and NEEM is treated as an unknown. Even though to some they may appear trivial it is good practice if you write the equations on the slope and intercept of the calibration line. It also needs to be stressed out that the use of the standard waters and the calibration procedure is not there only for the assessment of the accuracy but it is a vital part of the post processing of the vapour measurements. The term VSMOW is not found in neither the abstract nor the introduction of the manuscript. It needs to be mentioned so the reader knows that the authors have addressed the essential step of the SMOW-SLAP calibration.