

Response to Reviewer #1

We wish to thank the reviewer for providing feedback on our manuscript. Our response is provided below the original comment, which is italicized for clarity.

Sensibility to changing environmental conditions (e.g. temperature dependence) and dependence of δD and $\delta^{18}O$ on H_2O concentration are the two main sources of error affecting the IRIS measurements. This manuscript deals with an important subject about the stability and calibration of long-term water vapor isotope ratio measurements. The state of the art of calibration methods and long-term stability should be reviewed further. One concerns about how to determine and evaluate the precision and accuracy of calibration method in this study.

Following the reviewer's suggestion, the revised Introduction includes a much lengthier description of the three major types of calibration systems currently in use and includes additional citations describing the concentration dependence, the effect of drift on measurement repeatability, and instrumental precision.

As more clearly stated now in the 3rd paragraph of Sect. 2.4, standard errors (i.e. prediction errors) are used to evaluate uncertainties in the characterization of the concentration dependence and identify statistically significant variations with isotope ratio and time. The description of our precision estimates can be found in the overview of Sect. 4, which has been revised to improve clarity.