

***Interactive comment on “On the reproducibility and repeatability of laser absorption spectroscopy measurements for  $\delta^2\text{H}$  and  $\delta^{18}\text{O}$  isotopic analysis” by D. Penna et al.***

**Anonymous Referee #2**

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General comments: This is a good and well written paper that presents a comparison between four off-axis integrated cavity output spectrometers (OA-ICOS) and one isotope-ratio mass spectrometer (IRMS). The topic is very relevant, suitable for HESS and definitely of high interest for the international hydrological community due to the increasing interest in application of stable isotope techniques for various hydrological investigations. The paper is well structured, organized, and all tables and figures are clear and helpful. The list of references is adequate and up to date. To summarize, I recommend accepting the paper after including the review comments given below.

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Specific comments:

- 1) p. 2978, 8: Please be consistent with the use of either "V-SMOW" or "VSMOW".
- 2) p. 2980, 23: Add "." at the end of the sentence.
- 3) p. 2981, 1: Replace "-45" by "-45‰" and "-5" by "-5‰".
- 4) p. 2981, 5: Which standards are provided by the manufacturer? Please refer to names in Table 1.
- 5) p. 2981, 9: Please be consistent with the use of "V-SMOW" or "VSMOW".
- 6) p. 2984, 1: I suggest to use "Gaussian bell curve" instead of "Gaussian bell".
- 7) p. 2984, 15, 16, 20, 21: I suggest to use ":" instead of " ./."
- 8) p. 2998, 14: Please replace "2005." By "2005b."
- 9) p. 3007, Fig. 1: What is the meaning of "std (x)" at the end of arrangement (B) and (C)?
- 10) p. 3008, Fig. 2: I suggest to use " $\Delta\text{H}(\text{‰})$ " instead of " $\delta^2\text{H}$  deviations ( $\text{‰}$ " for the labeling of the vertical axes.
- 11) p. 3009, Fig. 3: I suggest to use " $\Delta\text{O}(\text{‰})$ " instead of " $\delta^{18}\text{O}$  deviations ( $\text{‰}$ " for the labeling of the vertical axes.
- 12) p. 3010, Fig. 4: I suggest to use " $\Delta\text{O}(\text{‰})$ " instead of " $\delta^{18}\text{O}$  deviations ( $\text{‰}$ " for the labeling of the vertical axes.
- 13) p. 3010, Fig. 4: Please change figure caption to " $\delta^2\text{H}$  (panel (a)) and  $\delta^{18}\text{O}$  (panel (b)) deviations for all...".

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 2975, 2010.

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