

I enjoyed reading the concise study carried out by Zhao et al., which contributes to the ongoing discussion of methodological effects on tree water source determination based on stable water isotopes. The authors use samples from an apple orchard system to investigate differences in water isotopic signature according to extraction method (cryogenic vacuum extraction vs. centrifugation) and analysis method (mass spectrometry vs. laser spectroscopy). They further exemplify consequences for water source apportionment.

Let me still suggest some improvements:

- The authors describe what was sampled, and which samples were extracted and measured with which method in section 2.3. Yet, I feel that the overview on the methodology can easily get lost throughout results, discussion, and figures. I suggest adding a table with that information, e.g. like this: (or even add sample n)

Compartment	Extraction method		Isotope analysis	
	CVE	Centrifugation	IRMS	Laser spectroscopy
Branch	x	x	x	x
Soil > 60 cm	x	-	x	-
...				

- The manuscript entirely lacks references to the figures; please add.

Some comments and questions related to specific parts of the manuscript:

- *Water extraction* (L 82): How were these temperatures reached, i.e., what kind of heating method was used in the cryogenic extraction line?
- *Method comparison* (L 124, LL 129-130): “enriched ... by roughly 10‰”, “commonly 1-3‰ higher” – how were these numbers determined? Is this a rough visual assessment, a tissue-specific average, the result of a statistical test...?
- LL 132-133: This sentence needs a reference, and may be better suited for the Discussion
- *Source apportionment* (L 149): The data from which set of methods was used here?
- *Process signals versus methodological artifacts* (L 162): “sap-targeted methods” – one should add “such as centrifugation”
- *Implications of extraction method* (L 179): Does the 2H bias apply generally or to particular sample types?
- *Implications of analytical method choice* (L 188): What is meant by “post-processing”?
- L 195: I would rephrase this slightly – not only “meaningful”, but leading to flawed conclusions about the ecohydrological system.
- *Consequences for mixing-model inference/Conclusions*: The offset correction is a pragmatic solution. Do we then just accept a study-specific 2H-offset as given? Should we look more into where it comes from?

Figures:

- Figure 1: I suggest restructuring this figure:
 - Add panel labels (a, b, c)
 - The boxplots have a similar setup, yet the axes are inverted. I would swap the axes in the 2H-panel and position it above or below the other boxplot. This enables to enlarge all panels a bit, so that in particular the points in the dual isotope plot are easier to see.
 - Rethink the order and the color design of the boxplots. Currently, it is hard to find and compare the matching pairs (e.g. xylem-MS vs. xylem-LS), and the color does not really help. One could for example choose filled boxes for one method and empty boxes for the other, and position the pairs next to each other. While doing this, one could keep an intuitive order from bottom to top (soil, root, branch, leaf, rain...). This design should then be consistent across figures.
 - I would try to add the data points on top of boxplots
 - The boxplots of “Rain-LS” and the precipitation data points in the dual isotope plot do not seem to match. Were different samples included?
- Figure 2:
 - I feel the symbols and labels are rather small and may be enlarged for better readability
- Figure 3:
 - If done in Figure 1, adjust design and add data points
- Figure 4, Figure 5:
 - Would it make sense to compare the methods of the same sample (same tree, same compartment) pairwise?
- Figure 6:
 - I was surprised to see that the model assigned negligible contribution to Irrigation – first from a process-perspective, but also since the isotopic values of irrigation in Figure 1 seem to overlap quite well with the plant water. Is there any explanation for this? Were different input data used?

Spelling & Formalities:

- L 99: H₂ -> 2 as subscript
- *References*: Allen and Kirchner 2022 - the DOI leads to another paper