

## ***Interactive comment on* “Technical note: Uncertainty in multi-source partitioning using large tracer data sets” by Alicia Correa et al.**

**Bettina Schaefli**

bettina.schaefli@unil.ch

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I read this technical note with interest. However, in my view, this technical note is too condensed in its form. The reader has to guess his/her way through parts of the methods and the results section is extremely short, with a single example and no discussion of basic aspects of source attribution (e.g. effect of sample size). My comments hereafter are meant to increase the readability of the technical note. I think it would be great for the readers to have some more results for the presented case study.

Some detailed comments:

- the methods section does not say what the sets  $C$ ,  $y$  and  $z$  are, nor what  $f$  is. The reader can deduce it after reading the different equations but this form of presenting

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the notation is unusual in the geosciences literature.

-the estimation of the confidence interval is not presented in the methods section, only the estimation of the degree of freedom. The actual confidence interval comes in the results section; even if we all know Student's law, why not include it here?

- the results section could explicitly say what U1, U2, U3 is. I only understood after going back to the introduction and combining that information with the one from the figure caption.

- would be nice to have some illustrations of how the method reacts e.g. to outliers in the source samples ? I was for example surprised to see a relatively narrow confidence interval for end-member HS, which has a high standard deviation (Table 2). The computed degree of freedoms are missing.

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