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Interactive comment on "Water ages in the critical zone of long-term experimental sites in northern latitudes" *by* Matthias Sprenger et al.

Anonymous Referee #2

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Thanks for the elaborate response of the authors to my comments.

Based on the Response of the authors to Major comment 2 about the derivation of MTT and water ages, the authors indicated they could not follow my interpretation that "we would have referred the concentrations in the flux to the total recovered mass flux in the corresponding flux". The authors also state that "The tracer concentration of each flux was normalized by the total infiltrated tracer mass to get relative concentrations of each traced flow path (E, T, R)."

However, if I understand correctly we're dealing here with unsteady-state water flow conditions, right? In that case you should calculate mass fluxes (tracer concentration x flux (of E or T or R)), and normalize by the total recovered mass (of each traced flow path). Normalizing tracer concentrations is only possible for steady-state water flow

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conditions.

It's well possible I missed some detail in the manuscript that explains the reasoning for normalizing tracer concentrations, or that I don't understand the approach/methodology completely, however could you please explain this?

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