

Interactive comment on “Modeling the dynamic behavior of a droplet evaporation device for the delivery of isotopically calibrated low-humidity water vapor” by Erik Kerstel

Anonymous Referee #2

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The author presents a mathematical model to calculate the water isotope ratio which has been measured with a new developed calibration instrument described recently in another work published by Leroy-Dos Santos et al. (2020) in AMTD. The results of the presented simulations fit quite well with the measurements of that particular calibration device. I think it would have been more suitable to publish this work as an add-on to the published paper mentioned above. I don't see the unique selling point of this work and the added value of it for the community. Therefore I suggest a major revision. In any case I have several comments the author should consider to incorporate into the manuscript before publication. Major issues: 1) For a better understanding the author should briefly describe in the introduction why the measurement of the water

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isotope is important and what insights you gain from it. 2) It would be good to describe the meaning of δ for the readers not so familiar with the subject 3) The derivation of the formulas are not always easy to follow, please prepare a better description. 4) Generally please replace 'water concentration' with 'water vapour concentration'. 5) All figures should be enlarged. The legend of the figures are too small. 6) The colours of the graphs changes from one figure to the next. The author should consider to use the same colour for the simulation in all figures. 7) Figure 4 why does $\delta^2\text{H}$ oscillate so much more than $\delta^{18}\text{O}$. Please give an explanation.

Minor issues: 1) line 66-69 the use of numbers in brackets could lead to the misunderstanding that the author refers to the number of the appropriate formulas, consider using other annotations. 2) line 136 The standard waters used were left-over? Consider a better formulation.

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