Interactive comment on "Technical note: Calculation scripts for ensemble hydrograph separation" *by* James W. Kirchner and Julia L. A. Knapp

Anonymous Referee #2

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The Technical Note: "Calculation scripts for ensemble hydrograph separation" by Kirchner and Knapp, presents an ensemble hydrograph separation tool, useful to estimates new water fractions and transit time distributions (TTDs). The authors developed user-friendly scripts that perform EHS calculations in two broadly used platforms (MATLAB and R).

The authors used an impressive synthetic data set, that despite the limitations they clearly stated in the manuscript, mimics reasonably the real word behavior of isotope time series.

The authors made an important contribution to the scientific community by helping to

solve the common problem of lack of monitored/non-stationary end end-members while performing hydrograph separation. Moreover, they put great effort into describing the method, providing examples, and addressing uncertainties issues. I was delight by reading this technical note that is well-structured and clearly written.

Some of my main suggestions matched those of Reviewer RC1 (specifically related to IRLS and the overestimation of Fnew when the TTDs are humped) and were already clarified by the authors by including them as supplementary material.

I found this work in very good form and suggest the Editor accept this publication after a single additional clarification.

L 380-392 Could the authors please further explain the mismatch between the discharge age tracking using the benchmark model and the new ensemble hydrograph separation? As well as the potential implications for sampling size and frequency. This will be useful for users who will apply the method with real-world data.