

Hydrol. Earth Syst. Sci. Discuss., referee comment RC1 https://doi.org/10.5194/hess-2022-186-RC1, 2022 © Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.

Comment on hess-2022-186

Anonymous Referee #1

Referee comment on "Technical note: How physically based is hydrograph separation by recursive digital filtering?" by Klaus Eckhardt, Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2022-186-RC1, 2022

Comments:

- For equation 5 and 6, if no delay is assumed (d = 0), the subscript of y and b should be k-1 instead of k. Why is $(y_k b_k)$ in the manuscript? The baseflow in the current step should be related to the past step.
- For line 120, the assumption is that there is no major time lag between precipitation and the exfiltration of groundwater into surface waters. I don't think this statement is always true, especially in the large storm or extreme soil infiltration.