Comment on hess-2022-7
Anonymous Referee #2

Referee comment on "Recession discharge from compartmentalized bedrock hillslopes" by Clément Roques et al., Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2022-7-RC2, 2022

The paper uses numerical simulations to test the idea that a vertically compartmentalized model of groundwater flow can in some situations provide a good representation of streamflow recession, as opposed to results using the Boussinesq solution (homogeneous assumption). The paper is well written, the methodology is technically sound and the results are coherent and well presented. I only have minor comments that will hopefully help improve the paper.

In section 2.2 the authors explain that they performed CFD simulations of groundwater flow. There is no description of the model used, it is not clear whether it is the author's own model or another model. Please clarify and provide either more information or the corresponding references.

Figure 3: I did not fully understand the explanation in the caption about the dashed lines. Maybe clearly state: solid lines correspond to...; dashed lines correspond to ...

Eq 4 a should be replaced by $a$ (italic)