

Interactive comment on “Investigating the impact of exit effects on solute transport in macropored porous media” by Jérôme Raimbault et al.

Anonymous Referee #1

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Dear Dr., Loes van Schaik

Thanks for giving me the chance to participate in the revision of this manuscript. In the supplement, I attach the detailed comments to the author.

The study aims to demonstrate an exit effect (outer filter) in solute transport in a soil column with artificial macropores. They utilize advanced methodologies such as breakthrough experiments, MRI, and COMSOL Multiphysics software. The results showed that an exit effect occurs with a good agreement between the three independent methodologies. Therefore, the overall research question is answered. My main concern is related to the broad applicability of the results. The bulk soil system (matrix and macropore) allows fast flow in both domains and the macropore perfectly connects the top and bottom boundary. Probably, for general macroporous systems, this will not be

the case. Therefore, I did general questions about this issue and recommended that the authors limit the conclusion to the scope of the study and findings.

Before publication, I suggest an in-depth English edition; that is why I put “major revisions.”

Greetings

Please also note the supplement to this comment:

<https://hess.copernicus.org/preprints/hess-2020-494/hess-2020-494-RC1-supplement.pdf>

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2020-494>, 2020.

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Discussion paper

