

Interactive comment on “Transferring the concept of minimum energy expenditure from river networks to subsurface flow patterns” by S. Hergarten et al.

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Dear Axel,

I am really glad that you found our manuscript interesting and potentially important in the field of optimization principles in hydrology. During the last weeks I learned more on this field and already started to rewrite the second part of the introduction taking into account your suggestions. Admittedly I was even not aware of the very interesting papers on allometric scaling.

We will also add a short section on the limitations of our approach such as nonsteady

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flow, the unsaturated zone, and on some karst-specific aspects that are not taken into account here. The ability of porous media to self-organize will also be addressed in the context that they probably only self-organize under increasing porosity.

The rest of your suggestions can be easily implemented. So I am quite sure that your comments will help us to improve the paper.

Many thanks,

Stefan

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