EGUsphere, author comment AC2
https://doi.org/10.5194/egusphere-2022-605-AC2, 2022

Reply on RC2

Stefan Hergarten and Alexa Pietrek

Author comment on "Self-organization of channels and hillslopes in models of fluvial landform evolution and its potential for solving scaling issues" by Stefan Hergarten and Alexa Pietrek, EGUsphere, https://doi.org/10.5194/egusphere-2022-605-AC2, 2022

Dear Reviewer,

thank you very much for your encouraging comments! We will go deeper into detail when preparing a revised version quite soon.

Since this paper is somewhat technical, we shortened the description of the respective modeling approaches compared to our earlier papers. However, since you feel that we should go more in detail at some points, we will think about this again.

Basically the same holds for m/n != 0.5. Originally, we did not want to emphasize the specific model (m = 0 at hillslopes) too much and therefore did not go into detail concerning the ratio m/n. From some preliminary tests, we saw that m/n != 0.5 did not yield fundamentally different results. However, the analysis shown in Fig. 8 becomes a bit more complicated since horizontal and vertical scales are no longer independent then. Accordingly, the y-axis (catchment relief) must be rescaled. We will revisit this topic and think whether it is interesting enough to include it explicitly or just add a short statement.

Best regards,
Stefan Hergarten and Alexa Pietrek