

Interactive comment on “Process-based karst modelling to relate hydrodynamic and hydrochemical characteristics to system properties” by A. Hartmann et al.

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We thank the editor and the two referees for their helpful suggestions. We hope that we could address them satisfactorily (please refer to our direct responses to the referee comments). The new manuscript will include:

1. A more detailed description of calibration procedure and an elaboration how informative parameters were distinguished from non-informative parameters.
2. A discussion about possible relations between the system signatures. According the second comment of the Editor, this will also include an elaboration of the choice

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and number of system signatures. An explanation, why we did not use the runoff yield and what we used instead, is provided in point three of our response to referee #1.

3. The aim of regionalizing the system signatures will be removed from the manuscript. For details please see our response on specific comment 4 of reviewer #1 and on the general comments of referee #2.

4. The manuscript, in particular the discussion, will be reviewed in terms of language and the correctness of hydrogeological expressions.

5. A full model description will be provided in the appendix.

6. According the first comment of the Editor, section 5 will be expanded to include a critical discussion about the impact of the different lengths, time periods, and temporal resolutions of the observed time series on the results of this study.

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