

## ***Interactive comment on “Application of Gamma functions to the determination of unit hydrographs” by Hongyan Li and Yangzong Cidan***

**Anonymous Referee #2**

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My recommendation is in the same line as Referee #1: encourage the authors to try submitting to some technical note journals upon having the manuscript revised with a more concise and critical presentation.

The reasons for this recommendation are the following: (i) The unit hydrograph is an idealized linear concept, whereas this Journal is about nonlinear processes in Geophysics, as clear from the name of the Journal. The possible non-linearity of the method of fitting does not make the paper suitable for the Journal either, because a fitting method is not a Geophysics process. (ii) In the article, there is no consideration of the unit hydrograph concept concerning its limitations or possible generalization to less idealized and possible nonlinear ideas to model the hydrologic response. For instance, the hypothesis of uniform rainfall is far from the current understanding of the

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irregularity of rainfall fields. The rain is just one example of a nontrivial, highly nonlinear process not taken into account. (iii) The quality of the paper concerning writing, figures, and equations needs substantial improvement (iv) The substance of the paper, a fitting method is not tested adequately according to standard modern techniques.

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Interactive comment on Nonlin. Processes Geophys. Discuss., <https://doi.org/10.5194/npg-2020-1>, 2020.

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