

***Interactive comment on “Technical Note:  
Analytical sensitivity analysis of a two parameter  
recursive digital baseflow separation filter” by  
K. Eckhardt***

**K. Eckhardt**

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Thank you for the comment!

1.

Referee #2 is right: Mathematical correctness requires an additional term  $b_0$  in the equations A3, A4, 5, and 6, that, however, can be neglected thereafter.

The subsequent remark could be a suggestion to complement the paper by a discussion of how the choice of the initial value  $b_0$  influences the filter result. Please see the

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attached file.

2. and 3.

The two catchments analysed by Eckhardt (2005) do not belong to the pool of the 65 catchments, which were analysed for the present paper.

I think it is no question that in general an analysis of 65 catchments yields more reliable results than an analysis of only two catchments. Furthermore - the second of these two catchment is a special case in that it has a hard rock aquifer - the value  $a = 0.925$  of the recession constant, which was selected as a starting point for the empirical sensitivity analysis by Eckhardt (2005), was not the result of a recession analysis, but was arbitrarily choosen.

K. Eckhardt

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/8/C5351/2011/hessd-8-C5351-2011-supplement.pdf>

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Interactive comment on *Hydrol. Earth Syst. Sci. Discuss.*, 8, 9469, 2011.

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