

## ***Interactive comment on “Analysis of the runoff response of an Alpine catchment at different scales” by B. Zillgens et al.***

### **Anonymous Referee #2**

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This paper contains the results of observations on three different scale catchments in the Alpine area. The runoff generation mechanism is discussed using 67 individual rainfall events. The methodology applied is simple but the results are interesting. The differences between the unimodal and the bimodal events are clearly stated but not fully explained.

The role of initial moisture available for the bimodal events could be extended. It would be interesting to see the effect of rainfall events leading to bimodal events for cases where the initial baseflow was low. Is there a kind of critical storage volume or rainfall volume in these catchments? Events 11 and 12 of Table 3 support the dependence on baseflow while show the opposite. How can a lower precipitation and a lower baseflow lead to a higher second peak?

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In general I find that this is an interesting paper, which could be published as it is, but I would be more pleased if the authors could address the above mentioned point.

Minor remarks:

The scale of Fig 2 is missing - please indicate at least in the caption the units. Fig 12 unimodal and bimodal are exchanged in the caption. Fig 13 I suggest to use underestimated instead underpredicted.

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Interactive comment on Hydrology and Earth System Sciences Discussions, 2, 1923, 2005.

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