

Review to the paper of

U. Lauber et al. "Hydrogeology of an alpine rockfall aquifer system and its role in flood attenuation and maintaining baseflow"

The paper has a good quality and is within the scope of HESS. The text has a clear structure, the focus is well expressed and the results are well documented by tables with data and informative figures. From my point of view the list of references comprises all important publications. The paper should be accepted for publishing in the HESS Journal with some minor revisions.

My remarks:

page 6809, line 10 to 15: The description of the research area is a mix of the situation in the entire Wetterstein area and of the Reintal itself. The Reintal has only one cirque (if the so called Zugspitzplatt can be termed as a cirque at all...) with two vestigial glaciers of a total extent of about 32.6 ha in 2009. This should be expressed more exactly.

page 6812, line 4: The term "swallow hole" is related to karst geomorphology. It should be used a more unspecific term as "sink" for instance...

page 6812, line 5: "the dye was dissolved in a 20 l canister..." Na-naphtionate has a solubility of about 240 g/l. For 5 kg you need more than 20 l! Did you use more than one canister ??

page 6813, line 25: The coefficients of determination should be given for each gauging station as well as the other statistics (number of measurements, standard error, ...)

page 6815, line 5: It should be explained more clearly how the discharge events with "... one clear input and one clear output signal..." were selected. What does it mean? What kinds of events were used? Snowmelt runoff? Rainfall only in the upper part of the Reintal area? In any case of rainfall induced runoff you have runoff from lateral torrents which interferes with the input signal.

page 6816, line 3: The alluvial and rockfall sediments in the Reintal should be termed as postglacial sediments as in fig. 4

page 6816, line 13: Low flow conditions are not related to baseflow in a hydrological sense. Better use "discharge" instead..

page 6819, line 11: A recovery rate of 59 % for Na-naphtionate is a very high value! At this place a short discussion of the reasons of the loss of nearly 40 % should be done. And additionally, the best possible recovery should be estimated. 100% is unrealistic and therefore not the best guess!

page 6820, lines 5 ff.: Piston flow as a reason for short lag times is not mentioned.

fig. 6: An approximate scale for the distance would improve the understanding of the figure.