

Interactive comment on “Heat transport of diurnal temperature oscillations upon river-water infiltration investigated by fiber-optic high-resolution temperature profiling” by T. Vogt et al.

J. Constantz (Referee)

jconstan@usgs.gov

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The paper has a novel instrument/design approach for measuring vertical temperatures in the streambed and bank, and interesting results as well; however, there are several areas that could be improved with minor modifications and expansions of the text. First, as indicated by the title, the researchers state that they are investigating heat transport using the fiber-optic technique. Actually, I believe they are more interested in heat as a tracer to examine water fluxes, so I suggest changing the title to reflect

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this and carefully reviewing the text for this same issue. Second, the very tight spatial resolution of the coiled wire does not seem to be necessary for the level of analysis, so this should be discussed in some detail, i.e., would evaluating the data at a smaller spatial intervals provide more information or not. Page 6261, the authors state their main hypothesis but not reasons for suspecting this hypothesis. Page 6266, is the aquifer confined or unconfined? Page 6268, the boundary conditions are not specified. Page 6270, the calculated seepage range should include the depth for this range as well. Page 6273, how do applied velocities correlate with deduced velocities? Page 6274, text related to Fig. 6d needs to show depth and horizontal distances. Page 6276, the sentence starting with ‘Given a shallow unsaturated zone’ is very difficult to follow. Page 6277, again some discussion of the applied vs. deduced velocities is warranted. Page 6277, Regarding the statement ‘model does not exactly reproduce the spatiotemporal temperature distribution’, has this evidence been shown earlier? Page 6278, The results seem to indicate that the model can reproduce the flow system, but there is some concern that the flow system is still not well understood.

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