Hydrol. Earth Syst. Sci. Discuss., 11, C6876–C6877, 2015
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Hydrology and Earth System Sciences
Discussions

Interactive comment on "The effective porosity and grain size relations in permeability functions" *by* K. Urumović and K. Urumović Sr.

Anonymous Referee #2

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The topic of this paper concerns generalizing the Kozeny-Carmen equation to handle estimation of sediment permeability not only for clean (mostly free of silt and clay), sands or gravels, but also for sediment mixtures that contain a significant fraction of fines. The authors correctly point out that the KC equation produces poor results for all but clean sediments, and hence is of very limited practical use, despite the fact that people continue to apply it. I think the paper probably contains some significant contributions, but because of (1) lack of adequate organization, (2) lack of clear presentation of logical results and arguments, and (3) trouble with English sentence structure, vocabulary and grammar, I cannot understand the paper well enough to discern those contributions.

Lack of organization: The paper needs to be restructured into Introduction, Lit review,

Methods, Results and Discussion, Conclusions. As written currently, most of the various sections of the paper are ad hoc mixtures of lit review, methods and results. The text does not flow logically from one section to the other. Much of the time it is not clear to the reader whether the authors are referring to the literature or to their own results. Furthermore, the origins of the data in many of the plots are often not clear, and the meaning of the plots is often not adequately explained and discussed. If the authors clearly define the problem that they are addressing via lit review; clearly describe their methods, including types, origins and scales of the various data used; and then clearly present the results and discuss their meaning, then they will likely have a good paper.

One paper that would seem to be very important to the authors work was omitted: Koltermann & Gorelick, 1995, WRR.

I am attaching an annotated PDF file that includes detailed edits and comments.

Please also note the supplement to this comment:
http://www.hydrol-earth-syst-sci-discuss.net/11/C6876/2015/hessd-11-C6876-2015-supplement.pdf

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 11, 6675, 2014.