

Interactive comment on “Solving Richards Equation for snow improves snowpack meltwater runoff estimations” by N. Wever et al.

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The responses appear to adequately address most of the reviewer’s comments and I look forward to reading the revised version. I just wish to make a couple of suggestions. The first one is about the definition of grain size. There is currently a lot of activity going on about this notion, and the trend is clearly to substitute it with specific surface area. In particular, significant work on this subject is going on in Davos, so that the authors are probably aware of that or can easily become aware of it. It would therefore be nice to recall in detail the grain size definition used and perhaps explain how a change to specific surface area might affect their results. Note that I am not suggesting that the authors stop using the notion of grain size in their current paper. By the way, the definition in Lehning et al. (2002) in fact refers to that of Baunach et al (2001) in Ann.

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Glaciol. (a Davos publication involving some of the authors of the paper under review). Secondly, I understand it might be complex for the authors to change the permeability formulation of Shimizu at this stage. However, the latest formulation is in fact in Calonne et al. (2012), The Cryosphere, 6, 939. If the authors stick to Shimizu, perhaps a few words as to whether changing to Calonne et al. might induce significant changes could be of interest to readers.

Interactive comment on The Cryosphere Discuss., 7, 2373, 2013.

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