

## ***Interactive comment on “Introducing PebbleCounts: A grain-sizing tool for photo surveys of dynamic gravel-bed rivers” by Benjamin Purinton and Bodo Bookhagen***

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Review of the paper entitled: “Introducing PebbleCounts: A grain-sizing tool for photo surveys of dynamic gravel-bed rivers” by Benjamin Purinton and Bodo Bookhagen

This paper describes an interesting open source software for automatic measurement of grain size distribution from images. Compared to existing systems, this open source software is able to work on ortho-images obtained by photogrammetric methods on image collections covering wide areas. The algorithm seems very efficient but the results are deserved by the text which is too long and a discussion where key problems are downed out among less important elements. I suggest to the authors to re-write the

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paper in a more concise and linear way. P4 line 2: How to be sure that the detected grains are representative of the whole grains? It is a point to discuss. P4 line 6 : The fact that current methods are limited to some m2 is a real limitation that should be indicated in the part concerning the current methods. Figure 1: the differences in results between AIF KMF and water shed methods should be discussed in the discussion Figure1: Concerning the watershed method (basaGrain ?), you show, I think, the gross results. The results can be filtered with basegrain by post processing. Page 5 line8 : What type of denoising method do you use ? Does it preserve edges ? Page 5 line 10: how do you filter the sand patches ? on color ? on texture ? Figure 3: I suggest to merge figure 3 and figure 6 and to shorten the text referring to the manual user of your software. Figures 4 and 5: difficult to read and not necessary. I suggest to remove or to rework in a more concise and readable way Concerning “5 Calibration and Validation Test I: Controlled Experiment”: shorten and get to the point. The part concerning the cameras is not useful. What is important is the result (description of the Photoscan parameters is useless for example). Size of pixels do not matter. What is important is the ratio between the resolution of the image to the size of the smallest grain detected. Same for “6 Calibration and Validation Test II: Field Surveys”. I suggest to remove the useless details and to go to the point. You could show only the better and the worth examples and discuss why the “best” example give good results and why the “worst” example give no such good results (but good anyway ĩAŁ ) Figure 19 (they are too many figures): for me, what is important is to discuss why its work or not, in what case and How I can use your software and what error can I expect, by adding some advices on the acquisition procedure I should follow. These points are discussed in the current version but are not enough highlighted.

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