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Interactive comment on "Determination of high resolution spatio-temporal glacier motion fields from time-lapse sequences" *by* Ellen Schwalbe and Hans-Gerd Maas

Anonymous Referee #2

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I have read the paper with interest, and I think this is a potential interesting contribution for the special issue as it matches very well with the topic. My main concern about the paper is the very large similarities with the paper already published by Roseneau et al. 2013. Indeed this paper is not cited in the introduction when I think that it should be clearly stated that this paper exists and which is the exact contribution and adding of this new paper. It would also allow to prepare a revised version more focussed and shorter, as in its current state it seems to me that it results a little bit sparse and too long (18 figures is probably excessive for a paper).

As a suggestion, I think that the paper will be more interesting for readers focussing in

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Discussion paper

the detailed presentation of the methodology and validation that you do that exceeds the one offered in Roseneau et al.2013. Much of the sections dealing with applications and results could be removed and synthetized in a discussion section. In this way, I think it would be useful to add a figure showing a scheme with the complete workflow applied to the figures in a sequential way. I would avoid to exceed 10-12 figures in total.

Minor comments:

-In general the methodology is presented in a clear way and it is possible to be understood by the majority of readers, but some sentences could be simplified to facilitate the lecture for people not very familiarized with this technique. An example is. "We limit ourselves to monoscopic image motion capture and processing delivering two-dimensional velocity field information here, as the 15 glaciology phenomena observed in the practical experiments do not show significant across-track motion and can thus be well described in 2D."; or to explain better some concepts as "decorrelation" used in page 2 line 29.

- It is necessary to read more than half of the paper to realize that you are using Photoscan and a library developed for yourselves for the analyses. I would mention this earlier in the paper and I would indicate if the library is open for all users. - P7 line 19: First, not fist. - P6, line 23. " The cameras camera position...." - How is corrected the distortion of the lens? Using the info provided by the producers or using some tool as the one provided by Photoscan? Does t - If I understood well, all the analyses were made with only one camera. In Figure 2 the inclusion of more photogrammetric cameras may lead to confusion. - Please check well the references-citations as there are several mistakes. Indeed the reference of the paper Roseneau et al. 2013 is wrong.

Hoping my comments will be useful.

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