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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Technical note: Stage and water width measurement of a mountain stream using a simple time-lapse camera" *by* Pauline Leduc et al.

Anonymous Referee #1

Received and published: 8 August 2017

General comment:

This technical note provides the imaging approach to quantify the width and level of running water in a mountainous area using a commercially available time-lapse camera. To categorize the image quality/characteristics, the image taken by the camera was analyzed using the (eight) target zones, and this point differed from the approaches described in Gleason et al. (2015) and Young et al. (2015). Utilization of image to quantify the hydrological parameters is active topics. The manuscript provides the experience of the authors and this is potentially beneficial to strengthen our understanding of hydrological processes. In my view, the manuscript is worthy of publication after

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some modification and clarification.

Specific comments:

The caption of Figure 3, the locations of the pressure transducer is better to be specified in the figure.

Page 5. line 4 and others, Authors used 'sorted' but I suggest to use 'classify' or 'categorize' since 'sorted' has another meaning, the arrangement of data in a prescribed sequence.

Page 5, line 18 and following paragraph. It is better to refer 'Test 1' and 'Test 2' in the main text as like did for Test 3 and Test 4 to make clearer the link between the discussion in the main text and the contents of Figure 6.

Figure 7: Please explain the meaning/definition of red and blue lines.

Page 13, line 9, I think it is better to insert some conjunction before 'rocks are fully...'

Page 14, line 14, I can not understand the meaning of ']0.5.Hmax,Hmax],Hmax'

Page 14, lines 18-20. This sentence is not clear. Please rephrase.

Page 15, line 13 'make picture filtering an important step in the process' is not clear. Please rephrase.

Page 16, line 6, the importance of camera angle was considerably discussed in Tsubaki et al. (2011) and please consider to cite here.

Reference suggestions (not must but suggested to refer) (1) Stumpf, A., E. Augereau, C. Delacourt, and J. Bonnier (2016), Photogrammetric discharge monitoring of small tropical mountain rivers: A case study at Rivière des Pluies, Réunion Island, Water Resour. Res., 52, 4550–4570,

(2) Ran, Q., Li, W., Liao, Q., Tang, H., and Wang, M. (2016) Application of an automated LSPIV system in a mountainous stream for continuous flood flow measurements. Hy-

drol. Process., 30: 3014–3029. doi: 10.1002/hyp.10836.

Technical corrections:

Page 1. line 19, "Ground-based remote sensing 'increasingly' is providing", 'increasingly' seems improper here.

Page 2, line 24, 'oblique time-lapse oblique image' There are two oblique and please rephrase the sentence.

Page 4, line 12, 1536 by 2048 would be 2048 by 1536. '.jgp' would be '.jpg'.

Page 5, lines 8-9. Remove space between 'estimation' and ':'. The parentheses '(' before Figs 4(a) to 4(c) were not closed by corresponding ')' so please edit the sentence.

Figure 5, Change color of box and text to increase the contrast between the background picture and additional information.

Page 10, lines 3, 5, 11 and 12: Insert small space between number and unit. The unit should be the regular font, not the italic typeface. Remove space before '%'.

Figure 10. The dashed blue line and the solid black line are difficult to distinguish. Please arrange the figure to be easier to distinguish two lines. In the caption, 'August' may be 'July'.

Figure 11, Lines in figures are difficult to identify. Please change color or/and style to highlight the information.

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