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Interactive comment on "Evaluating the Potential of PPK Direct Georeferencing for UAV-SfM Photogrammetry and Precise Topographic Mapping" *by* He Zhang et al.

Anonymous Referee #2

Received and published: 28 February 2019

Dear Editor,

The paper "Evaluating the Potential of PPK direct Georeferencing for UAV-SfM Photogrammetry and Precise Topographic Mapping" fits the scope of the journal and I consider that the paper is very interesting for the Earth Surface Dynamics' readership. Moreover, it is a well-written paper, with very interesting results and rigorous validations. However, some minor revisions and comments must be fixed before the final publication:

Comment 1: Introduction (section 1) and Discussion (section 4.2): There is a very recent publication where it is compared the accuracy of different PPK approaches and

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other positioning alternatives, using DLSR cameras (10.1016/j.jag.2018.10.018). This could be in the introduction and in the discussion, since this research follows a similar workflow.

Comment 2: P6 (section 2.3.2): Why did you not post-processed the static GNSS measurements?

Comment 3: P7 (section 2.4.2): What was the interpolation method used in the DSM generation (TIN, bilineal, bicubic)?

Comment 4: P8 (section 2.5.2): How did you extracted the image coordinates? Could you detail the process (visually, number of iterations,. . .)?

Comment 5: P10 (section 3.3) and Discussion (section 4.1): The authors explain and numerically detail the accuracy of several positioning procedures, but it would be interesting to compare them with a standard (e.g. ASPRS http://www.asprs.org/a/society/divisions/pad/Accuracy/Comments_NGTOC_Rev5_V1.docx), especially regarding the vegetated and non-vegetated terrain.

Comment 6: P5 (section 2.3.1): Finally, the authors set the trigger interval in seconds, but they do not detail the rover velocity. Then, if the v is specified the reader could know how many meters lag between image captions and, if the GNSS rate is given, the distance between GNSS records.

Kind regards,

Please also note the supplement to this comment:
https://www.earth-surf-dynam-discuss.net/esurf-2019-2/esurf-2019-2-RC2-supplement.pdf

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